

Calculates Radiations to Points Anywhere on a Line

PROGRAM: SET OUT: CO-ORDINATES  
STN / #1 / #2 / #? #1 > #2

HP42S

1	LBL 'SETO'	51	ARCL ST:X	101	→HR	151	DEG
2	CLRG	52	PROMPT	102	RCL 'BRG'	152	RCL Ø1
3	CLST	53	RCL 'D2'	103	→HR	153	RCL Ø2
4	CL MENU	54	FIX Ø3	104	-	154	→POL
5	'STN'	55	'D2='	105	SIN	155	STO'DIST'
6	KEY 1 GTO Ø1	56	ARCL ST:X	106	÷	156	$\overline{ZY}$
7	'#1'	57	PROMPT	107	FIX Ø3	157	360
8	KEY 2 GTO Ø2	58	GTO Ø3	108	'DIST='	158	$\overline{ZY}$
9	'#2'	59	LBL A	109	ARCL ST:X	159	X<O?
10	KEY 3 GTO Ø3	60	RCL 'E2'	110	PROMPT	160	+
11	'?Bg'	61	RCL 'E1'	111	GTO Ø4	161	→HMS
12	KEY 4 GTO Ø4	62	-	112	LBL Ø5	162	STO'BRG'
13	'?d'	63	RCL 'N2'	113	XEQ A	163	FIX Ø4
14	KEY 5 GTO Ø5	64	RCL 'N1'	114	Ø	164	'Bg='
15	MENU	65	-	115	STO Ø1 (E+)	165	ARCL ST:X
16	LBL Ø1	66	→POL	116	STO Ø2 (N+)	166	PROMPT
17	INPUT 'ST:E'	67	STO'D3'	117	FIX Ø3	167	FIX Ø3
18	INPUT 'ST:N'	68	$\overline{ZY}$	118	INPUT 'D'	168	RCL'DIST'
19	LBL Ø2	69	360	119	DEG	169	'D='
20	INPUT 'E1'	70	$\overline{ZY}$	120	RCL 'Bg1'	170	ARCL ST:X
21	STO 'E:'	71	X<O?	121	→HR	171	PROMPT
22	INPUT 'N1'	72	+	122	→RAD	172	GTO Ø5
23	STO 'N:'	73	→HMS	123	STO Ø3 (BRG)	173	LBL Ø6
24	XEQ Ø6	74	FIX Ø4	124	RAD	174	RCL 'E:'
25	RCL'DIST'	75	STO 'Bg3'	125	RCL Ø3	175	RCL 'ST:E'
26	STO 'D1'	76	'Bg1 → Bg2='	126	SIN	176	-
27	RCL 'BRG'	77	ARCL ST:X	127	RCL 'D1'	177	RCL 'N1'
28	STO 'Bg1'	78	AVIEW	128	X	178	RCL 'ST:N'
29	FIX Ø4	79	PSE	129	STO+Ø1 (E+)	179	-
30	'Bg1='	80	RCL 'D3'	130	RCL Ø3 (BRG)	180	→POL
31	ARCL ST:X	81	FIX Ø3	131	COS	181	STO'DIST'
32	PROMPT	82	'D: 1→2='	132	RCL 'D1'	182	$\overline{ZY}$
33	FIX Ø3	83	ARCL ST:X	133	X	183	360
34	RCL 'D1'	84	PROMPT	134	STO+Ø2 (N+)	184	$\overline{ZY}$
35	'D1='	85	RTN	135	DEG	185	X<O?
36	ARCL ST:X	86	LBL Ø4	136	RCL 'Bg3'	186	+
37	PROMPT	87	FIX Ø4	137	→HR	187	→HMS
38	GTO Ø2	88	XEQ A	138	→RAD	188	STO'BRG'
39	LBL Ø3	89	INPUT 'BRG'	139	STO Ø3 (BRG)	189	END.
40	INPUT 'E2'	90	RCL 'Bg1'	140	RAD		
41	STO 'E:'	91	→HR	141	RCL Ø3		
42	INPUT 'N2'	92	180	142	SIN		
43	STO 'N:'	93	+	143	RCL 'D'		
44	XEQ Ø6	94	RCL 'Bg3'	144	X		
45	RCL'DIST'	95	→HR	145	STO+Ø1 (E+)		
46	STO'D2'	96	-	146	RCL Ø3 (BRG)		
47	RCL 'BRG'	97	SIN	147	COS		
48	STO 'Bg2'	98	RCL 'D1'	148	RCL 'D'		
49	'Bg2='	99	X	149	X		
50	FIX Ø4	100	RCL 'Bg3'	150	STO+Ø2 (N+)		

STN	#1	#2	?BG	?D	CLOSE
-----	----	----	-----	----	-------

ST:E .....  
ST:N .....

[R/S]  
[R/S]

E2... [R/S]  
N2... [R/S]

E1... [R/S]  
N1... [R/S]

OUTPUTS  
DIST TO (B)

OUTPUTS  
RADIATION TO (A)

LINK TO  
CLOSE  
PROGRAM

